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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/538,202	06/09/2005	Chin Chang	US020504	1798
24737	7590	12/12/2007		
PHILIPS INTELLECTUAL PROPERTY & STANDARDS P.O. BOX 3001 BRIARCLIFF MANOR, NY 10510			EXAMINER ABDI, AMARA	
			ART UNIT 2624	PAPER NUMBER
			MAIL DATE 12/12/2007	DELIVERY MODE PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

# Office Action Summary

Application No.

10/538,202

Applicant(s)

CHANG, CHIN

Examiner

Amara Abdi

Art Unit

2624

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 09 June 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1,2,9,10 and 17-19 is/are rejected.
- 7) ☒ Claim(s) 3-8, 11-16 and 20 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 09 June 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date 06/09/2005.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_.

## DETAILED ACTION

### **Claim Rejections - 35 USC § 103**

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-2, 9-10, and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Giorgianni et al. (US 5,609,978) in view of Meynants et al. (US 6,833,868).

#### **(1) Regarding claims 1, 9, and 17:**

Giorgianni et al. disclose a method for determining RGB filter set for RGB LED color sensing (column 31, line 48-66), (the RGB LED is read as scene illumination source), the method comprising:

constructing a criteria function describing an error between desired color matching functions and a spectral response of an RGB filter set (Fig. 11, column 11, line 35-40 and column 27-30), (the criteria function is read as  $\Delta E^*_{ab}$ );

determining RGB filter set response characteristics based on the criteria function (column 31, line 46-51);

Giorgianni et al. do not explicitly mention the determining of color estimation parameters for substantially optimal color estimation with the RGB filter set based upon the determined RGB filter set response characteristics.

Meynants et al., in analogous environment, teaches a method and device for determining corrected color aspects of a pixel in an imaging device, where determining color estimation parameters (column 7, line 6-8, and column 8, line 5-15) for substantially optimal color estimation with the RGB filter set based upon the determined RGB filter set response characteristics (Figs. 1a, ab, column 6, line 35-38), (the estimating of the chrominance of pixels is read as the same concept as the estimating of color of pixels).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to use the system of Meynants et al., where estimating pixels chrominance, in the system of Giorgianni et al. in order to deliver a performance image quality and at the same time the system is implementable in a sufficiently small circuit allowing for the construction of a single chip CMOS based color imaging device (column 2, line 24-27).

**(2) Regarding claims 2 and 10:**

Giorgianni et al. further disclose the method where determining the RGB filter response characteristics (column 31, line 47-61) comprises evaluating the criteria function (column 11, line 35-40) to determine the RGB filter response characteristics (column 31, line 47-61) resulting in a minimum value of a constraint set criteria function (column 15, line 61-67), (the minimum value a constraint set criteria function is read as 3.1).

3. Claims 18-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Giorgianni et al. and Meynants et al., as applied to claim 17 above, and further in view of Guimaraes et al. (US-PGPUB 2003/0156214).

**(1) Regarding claim 18:**

Giorgianni et al. and Meynants et al. disclose all the subject matter as described in claim 17 above. Furthermore, Giorgianni et al. disclose the RGB LED light sources (column 31, line 48-66), (the RGB LED is read as scene illumination source), and constructing a criteria function (Fig. 11, column 11, line 35-40 and column 27-30), (the Examiner interpreted that  $M$  and  $n$  can be determine from the criteria function).

Giorgianni et al. and Meynants et al. do not explicitly mention the constructing of the spectral approximation functions.

Guimaraes et al., in analogous environment, teaches an apparatus and method for accurate electronic color capture and reproduction, where the constructing the spectral approximation functions (paragraph [0048], line 1-3).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to use the system of Guimaraes et al., where constructing spectral approximation function, in the system of Giorgianni et al., in order to have the accuracy of color capture, which is a result of the match between the human visual system and the unique set of spectral response curves and the correction matrix used in the invention (paragraph [0028], line 3-6).

**(2) Regarding claim 19:**

Giorgianni et al. and Meynants et al. disclose all the subject matter as described in claim 18 above. Furthermore, Giorgianni et al. disclose the RGB LED light sources (column 31, line 48-66), (the RGB LED is read as scene illumination source).

Giorgianni et al. and Meynants do not explicitly mention the determining of estimated tristimulus values for the RGB LED light sources based upon the spectral approximation functions.

Guimaraes et al., in analogous environment, teaches an apparatus and method for accurate electronic color capture and reproduction, where determining of estimated tristimulus values (paragraph [0008], line 8-10, and paragraph [0015], line 1-4) based upon the spectral approximation functions (paragraph [0048], line 1-3).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to use the system of Guimaraes et al., where determining the estimated tristimulus values, in the system of Giorgianni et al., in order to have the accuracy of color capture, which is a result of the match between the human visual system and the unique set of spectral response curves and the correction matrix used in the invention (paragraph [0028], line 3-6).

**Allowable Subject Matter**

4. Claims 3-8, 11-16, and 20 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

**Contact Information:**

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Amara Abdi whose telephone number is (571) 270-1670. The examiner can normally be reached on Monday through Friday 7:30 Am to 5:00 PM E.T..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wu Jingge can be reached on (571) 272-7429. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Amara Abdi  
11/27/2007

  
JINGGE WU  
SUPERVISORY PATENT EXAMINER